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08/154,126 11/18/93 KAMIGUCHI

M 392.12900

EXAMINER

HEITBRINK, J

A3M1/0209

ART UNIT

PAPER NUMBER

STAAS & HALSEY
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WASHINGTON, DC 20001

1307

DATE MAILED: 02/09/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS This application has been examined Responsive to communication filed on 11-1-95 This action is made final.A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. Notice of References Cited by Examiner, PTO-892.
2. Notice of Draftsman's Patent Drawing Review, PTO-948.
3. Notice of Art Cited by Applicant, PTO-1449.
4. Notice of Informal Patent Application, PTO-152.
5. Information on How to Effect Drawing Changes, PTO-1474.
6. _____

Part II SUMMARY OF ACTION

1. Claims 1-12 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. Claims _____ have been cancelled.3. Claims 4-8 are allowed.4. Claims 1-3 and 9-12 are rejected.5. Claims _____ are objected to.6. Claims _____ are subject to restriction or election requirement.7. This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.8. Formal drawings are required in response to this Office action.9. The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are acceptable; not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).10. The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been approved by the examiner; disapproved by the examiner (see explanation).11. The proposed drawing correction, filed _____, has been approved; disapproved (see explanation).12. Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has been received not been received been filed in parent application, serial no. _____; filed on _____.13. Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.14. Other

EXAMINER'S ACTION

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1. The rejections under 35 U.S.C. § 101 and 112 have been withdrawn.

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-3 and 9 are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese Kokai 60-104306 in view of applicant's disclosed prior art (pages 1-3 of applicant's specification).

The Kokai discloses the controlling of the injection molding using the reference profile of the conditions such as pressure wherein the profile is obtained when good products are produced. These profiles being a waveform of pressure and time and being stored in a memory would have been obvious to a person of

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ordinary skill in the art since pressure-time waveforms are well known profiles and pressure-time graphs are well known data for controlling injection molding processes as shown by applicant's disclosed prior art. The adjusting of at least one molding condition and obtaining a profile for a good product would have been obvious in the Kokai since a person of ordinary skill in the art would have adjusted a molding condition if the obtained product was not good.

4. Claims 10-12 is rejected under 35 U.S.C. § 103 as being unpatentable over Fujita et al. '116 taken together with European Patent 299,085 to Hara.

Fujita et al. discloses a process storing, displaying, modifying and storing injection conditions including a graph of the injection pressure vs. screw position. The corresponding relationship between screw position and time in the monitoring of injection operations is well known and it would have been obvious to a person of ordinary skill in the art to graph injection pressure vs. time in Fujita et al. since they are well known as being interchangeable in most injection molding operations. The graphing of a injection pressure waveform rather than pressure step profile in Fujita et al. would have been obvious to a person of ordinary skill in the art in view of Hara since Hara teaches the improved product quality by using a waveform so as to avoid

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peaks in pressure during pressure control step changes. Hara discloses a means for changing of the injection pressure waveform between points on the waveform.

Applicant has stated in response to the withdrawn 112 rejection that "How specifically this modification is performed for a given application (e.g., for a particular mold) is left to one of ordinary skill in the art to determine either by using the experience of and/or knowledge available to one of ordinary skill in the art, or even by trial-and error which would not require undue experimentation." It would have been obvious to a person of ordinary skill in the art to form a curved or straight line between two points on the pressure waveform because the adjusting of the injection pressure is well known to those of ordinary skill in the art. The injection and hold stages in Hara are similar to applicants injection/dwell stage.

5. Claims 4-8 are allowable over the prior art of record.

6. Applicant's arguments filed Nov. 1, 1995 have been fully considered but they are not deemed to be persuasive.

Applicant argues that JP'306 does not disclose adjusting at least one molding condition to generate an adjusted molding condition, performing injection pressure control based on the adjusted molding condition, and detecting a pressure acting on

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the resin during injection pressure control to generate an injection pressure waveform and setting the generated waveform as a target waveform. The JP'306 discloses the controlling of the injection molding using the reference profile of the conditions such as pressure wherein the profile is obtained when good products are produced. These profiles being a waveform of pressure and time and being stored in a memory would have been obvious to a person of ordinary skill in the art since pressure-time waveforms are well known profiles and pressure-time graphs are well known data for controlling injection molding processes as shown by applicant's disclosed prior art. The adjusting of at least one molding condition and obtaining a profile for a good product would have been obvious in JP'306 since a person of ordinary skill in the art would have adjusted a molding condition if the obtained product was not good and since the purpose of JP'306 is to "enable the title equipment to carry out correction of molding conditions". Applicant argues that JP'306 does not teach how to arrive at the reference profile. However, the abstract of JP'306 states "A preset value of a molding conditions set up a setting panel 17 is stored in the controller 16, and indicated on the indicator 2 as the variation characteristics through the indication control part 14 by adding the same to graphing of the foregoing measured value.

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Applicant argues that the prior art does not teach the changing a shape of a designated portion of a pressure waveform. However, Hara teaches changing of the injection pressure waveform between points on the waveform.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Heitbrink whose telephone number is (703) 308-0673.

Jill L. Heitbrink
JILL L. HEITBRINK
PRIMARY EXAMINER
ART UNIT 137

JLH
February 6, 1996